What is claimed is:

1. A radio wave propagation characteristics estimation method of estimating radio wave propagation characteristics by detecting a shield shielding a ray (radio wave) among a plurality of objects,

wherein said plurality of objects are provided in an observation area as defined in a three dimensional space, and said ray is radiated over said observation area, and

a closed space confining said ray in a scene of said ray colliding with said shield is divided into a plurality of partial spaces, and a new ray confined by each of said plurality of partial spaces is generated.

2. A ray spatial resolution control method for use in estimating the radio wave propagation characteristics to adjust the spatial resolution of a ray (radio wave) in accordance with a certain criterion, when said ray collides with a shield shielding said ray among a plurality of objects, wherein the plurality of objects are provided in an observation area as defined in a three dimensional space, said ray is radiated over said observation area, and a space regarded as identical to said ray is provided in the vicinity of said ray, comprising:

a first step of detecting a collision point of said ray with said shield;

a second step of determining whether or not to divide said space regarded as identical to said ray in accordance with said certain criterion;

a third step of dividing said space regarded as identical to said ray into a plurality of partial spaces if it is determined at said second step that said space regarded as identical to said ray is divided; and

a fourth step of allotting a ray regarded as identical to each of said partial spaces divided at said third step.

3. The ray spatial resolution control method according to claim 2,

wherein the number of divisions at said third step is set to M (M is an integer of 2 or greater), and after the ray is allotted to the i-th (i is a number from 1 to M) partial space at said fourth step, the first to fourth steps are executed for each of the allotted rays, whereby said first to fourth steps are repeated successively until it is determined that said space regarded as identical to the ray is not divided at said second step.

4. The ray spatial resolution control method according to claim 2,

wherein said criterion at said second step consists of a first criterion for examining whether or not the field strength at a collision point of said ray with said shield is greater than or equal to a predetermined value, and a second criterion for examining whether or not an area ratio of a collided face of said shield to a cross section of said space in the vicinity of said ray taken by a plane containing said collided face of said shield is smaller than or equal to a predetermined value.

5. The ray spatial resolution control method according to claim 4,

wherein said criterion at said second step further comprises a third criterion for examining whether or not the area of said cross section is greater than or equal to a predetermined value, and whether or not the angle (incident angle) of said ray with the normal to said collided face is greater than or equal to a predetermined value.

6. The ray spatial resolution control method according to claim 2,

wherein a conical form inscribed in a circular cone, and having a small error in volume from said circular cone is provided, with a central line of said conical form being a path of said ray, whereby said space in the vicinity of said ray is made up of said conical form, wherein in dividing the space in the vicinity of said ray into a plurality of partial spaces at said third step, employing a plurality of similar conical forms for said conical form making up the space in the vicinity of said ray, said plurality of similar conical forms are disposed in the vicinity of said ray, so that there may be a small error in the volume between said conical form making up said space in the vicinity of said ray and the sum of said plurality of similar conical forms for said conical form dividing said conical form.

7. The ray spatial resolution control method according to claim 2,

wherein at said third step, a triangular cone is employed as said conical form inscribed in a circular cone, and the size of said similar triangular cones is set so that a plurality of similar equal triangular cones for said triangular cone can be disposed inside said triangular cone without interstice.

8. The ray spatial resolution control method according to claim 2,

wherein at said third step, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and the size of said similar hexagonal cone is set so that an error in the volume between a total of seven similar regular hexagonal cones and said original regular hexagonal cone may be at minimum.

9. The ray spatial resolution control method according to claim 2,

wherein at said third step, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and

the size of said similar hexagonal cones is set so that the outermost contour side face of a conical form composed of a sum of seven similar regular hexagonal cones may be inscribed in the side face of said original regular hexagonal cone to dispose said similar triangular cones.

10. The ray spatial resolution control method according to claim 2,

wherein at said third step, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and the size of said similar hexagonal cones is disposed and set so that said original regular hexagonal cone may be inscribed in the outermost contour side face of a conical form composed of a sum of seven similar regular hexagonal cones to dispose said similar triangular cones.

11. A radio wave propagation characteristics estimation system for estimating radio wave propagation characteristics by detecting a shield shielding a ray (radio wave) among a plurality of objects,

wherein said plurality of objects are provided in an observation area as defined in a three dimensional space, and said ray is radiated over said observation area;

wherein a closed space confining said ray in a scene of said ray colliding with said shield is divided into a plurality of partial spaces, and a new ray confined by each of said plurality of partial spaces is generated.

12. A ray spatial resolution control system for use in estimating radio wave propagation characteristics to adjust the spatial resolution of a ray (radio wave) in accordance with a certain criterion, when said ray collides with a shield shielding said ray among a plurality of objects,

wherein the plurality of objects are provided in an observation area as defined in a three dimensional space, said ray is radiated over said observation area, and a space regarded as identical to said ray is provided in the vicinity of said ray, comprising:

collision point detecting means for detecting a collision point of said ray with said shield;

determination means for determining whether or not to divide said space regarded as identical to said ray in accordance with said certain criterion;

division means for dividing said space regarded as identical to said ray into a plurality of partial spaces if said determination means determines that said space regarded as identical to said ray is divided; and

allotting means for allotting a ray regarded as identical to each of said partial spaces divided by said division means.

13. The ray spatial resolution control system according to claim 12,

wherein the number of divisions by said division means is set to M (M is an integer of 2 or greater), and after the ray is allotted to the i-th (i is a number from 1 to M) partial space by said allotting means, said collision point detecting means, said determination means, said division means and said allotting means are executed for each of the allotted rays, whereby said collision point detecting means, said determination means, said division means and said allotting means are executed repeatedly and successively until said determination means determines that said space regarded as identical to the ray is not divided.

14. The ray spatial resolution control system according to claim 12,

wherein said criterion in said determination means consists of a first criterion for examining whether or not the field strength at a collision point of said ray with said shield is greater than or equal to a predetermined value, and a second criterion for examining whether or not an area ratio of a collided face of said shield to a cross section of said space in the vicinity of said ray taken by a plane containing said collided face of said shield is smaller than or equal to a predetermined value.

15. The ray spatial resolution control system according to claim 14,

wherein said criterion in said determination means further comprises a third criterion for examining whether or not the

area of said cross section is greater than or equal to a predetermined value, and whether or not the angle (incident angle) of said ray with the normal to said collided face is greater than or equal to a predetermined value.

16. The ray spatial resolution control system according to claim 12,

wherein a conical form inscribed in a circular cone, and having a small error in volume from said circular cone is provided, with a central line of said conical form being a path of said ray, whereby said space in the vicinity of said ray is made up of said conical form, wherein when said division means divides the space in the vicinity of said ray into a plurality of partial spaces, employing a plurality of similar conical forms for said conical form making up the space in the vicinity of said ray, said plurality of similar conical forms are disposed in the vicinity of said ray, so that there may be a small error in the volume between said conical form making up said space in the vicinity of said ray and the sum of said plurality of similar conical forms for said conical form dividing said conical form.

17. The ray spatial resolution control system according to claim 12,

wherein in said division means, a triangular cone is employed as said conical form inscribed in a circular cone, and the size of said similar triangular cones is set so that a plurality of similar equal triangular cones for said triangular cone can be disposed inside said triangular cone without interstice.

18. The ray spatial resolution control system according to claim 12,

wherein in said division means, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and the size of said similar hexagonal cones disposed is set so that an error in the volume between a total of seven similar regular hexagonal cones and said original regular hexagonal cone may be at minimum.

19. The ray spatial resolution control system according to claim 12,

wherein in said division means, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and the size of said similar hexagonal cones disposed is set so that the outermost contour side face of a conical form composed of a sum of seven similar regular hexagonal cones may be inscribed in the side face of said original regular hexagonal cone.

20. The ray spatial resolution control system according to claim 12,

wherein in said division means, a regular hexagonal cone is employed as said conical form inscribed in a circular cone, a similar regular hexagonal cone for said regular hexagonal cone is disposed at a center of said regular hexagonal cone, six regular hexagonal cones identical to said similar regular hexagonal cone are disposed on the side faces of said similar regular hexagonal cone, with one side face abutting with the other side face, and the size of said similar hexagonal cones disposed is set so that said original regular hexagonal cone may be inscribed in the outermost contour side face of a conical form composed of a sum of seven similar regular hexagonal cones.

21. A program for enabling a computer to perform a radio wave propagation characteristics estimation method of estimating the radio wave propagation characteristics by detecting a shield shielding a ray (radio wave) among a plurality of objects,

wherein said plurality of objects are provided in an observation area as defined in a three dimensional space, and said ray is radiated over said observation area, and

wherein a closed space confining said ray in a scene of said ray colliding with said shield is divided into a plurality of partial spaces, and a new ray confined by each of said plurality of partial spaces is generated.

22. A program for enabling a computer to perform a ray spatial resolution control method for use in estimating radio wave propagation characteristics to adjust a spatial resolution of a ray (radio wave) in accordance with a certain criterion, when said ray collides with a shield shielding said ray among a plurality of objects, wherein the plurality of objects are provided in an observation area as defined in a three dimensional space, said ray is radiated over said observation area, and a space regarded as identical to said ray is provided in the vicinity of said ray, comprising:

a first step of detecting a collision point of said ray with said shield;

a second step of determining whether or not to divide said space regarded as identical to said ray in accordance with said certain criterion;

a third step of dividing said space regarded as identical to said ray into a plurality of partial spaces if it is determined at said second step that said space regarded as identical to said ray is divided; and

a fourth step of allotting a ray regarded as identical to each of said partial spaces divided at said third step.

23. The program according to claim 22,

wherein the number of divisions at said third step is set to M (M is an integer of 2 or greater), and after the ray is allotted to the i-th (i is a number from 1 to M) partial space at said fourth step, the first to fourth steps are executed for each of the allotted rays, whereby said first to fourth steps

are repeated successively until it is determined that said space regarded as identical to the ray is not divided at said second step.